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Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Subject: Condit Hydroelectric Project (FERC Nos. 2342-005 and 2342-011)
Submittal of the Revised Quality Control Inspection Program**

Dear Ms. Bose:

Enclosed please find PacifiCorp's revised Quality Control Inspection Program (version May 10, 2011) which replaces the plan originally submitted on March 18, 2011 for FERC approval. The plan is submitted in compliance with ordering paragraph (F) of the Commission's December 16, 2010 *Order Accepting Surrender of License, Authorizing Removal of Project Facilities, and Dismissing Application for New License* and has been revised in response to additional information requested by the FERC.

This letter and its attachments have been filed electronically. The security classification of each component in this packet is shown in the Enclosure list below. A complete paper copy has also been sent to the Director, Division of Dam Safety and Inspections, the Director, Quality Control and Inspection Program and the Division of Dam Safety and Inspections-Portland Regional Office Regional Engineer. If you have any questions concerning these documents, please contact Todd Olson at (503) 813-6657 or at todd.olson@pacificorp.com.

Sincerely,



R. A. Landolt
Managing Director, Hydro Resources

RAL: TO: anp

Encl:	Letter - Public
	Revised Quality Control Inspection Program - Public

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Via eLibrary at www.ferc.gov

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May 11, 2011
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Condit Hydroelectric Project Decommissioning FERC Project No. 2342

QUALITY CONTROL AND INSPECTION PROGRAM



Prepared by



and



Prepared for



May 10, 2011

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1 INTRODUCTION

This report has been prepared in accordance with the February 1993 Quality Control Inspection Program described in Chapter VII of the Federal Energy Regulatory Commission's (FERC) *Engineering Guidelines for the Evaluation of Hydropower Projects*.

1.1 PURPOSE

PacifiCorp Energy intends to decommission the Condit Hydroelectric Project, FERC Project No. 2342, which will enable the river and watershed to return to a free-flowing, natural river environment. The project area is shown in Figure 1-1.

1.2 BACKGROUND

In 1991, PacifiCorp Energy filed for a new operating license from the FERC. The FERC issued an Environmental Impact Statement in 1996 analyzing the new license terms. The Environmental Impact Statement included a new fish passage facility and higher in-stream flows. The new requirements rendered the project uneconomical. PacifiCorp Energy and participants reached an agreement to shut down power generation and remove the dam.

1.3 DESCRIPTION OF STRUCTURES AND TYPES OF CONSTRUCTION

The Condit Hydroelectric Project is located on the White Salmon River in Skamania and Klickitat Counties in Washington and consists of the following features:

- A 125-foot high concrete gravity dam with a 250-foot long gated spillway
- A 13.5-foot diameter and 5,100-foot long wood stave flowline
- Concrete surge tank tower with concrete spillway
- Two 9-foot diameter, 650-foot long penstocks
- Reinforced concrete powerhouse structure
- Two double-runner, horizontal Francis-type turbine-generator units with a combined maximum capacity of 14.7 megawatts

The work consists of decommissioning the Condit Hydroelectric Project as indicated in the Project Plans and Specifications. The major work items are:

- Stabilization of Northwestern Lake Bridge
- Reservoir sediment removal
- Demolition and removal of original upstream diversion facilities
- Demolition and removal of the dam and intake structure
- Demolition and removal of the flowline, surge tank, and penstocks
- Demolition and removal of the surge tank
- Demolition and removal of the penstocks
- Modifications to the powerhouse
- Demolition and removal of the tailrace wall and fill of the tailrace channel
- Removal of the project switchyard, power line, and poles



Appendix A presents a project overview drawing.

1.4 SPECIALIZED CONSTRUCTION TECHNIQUES AND EQUIPMENT

The project is located in rugged and steep terrain in which the selected contractor will need to traverse for site access and removal activities. The contractor may use specialized logging techniques such as cable yarder systems to move debris or equipment into and out of the river canyon area.

The selected approach to dam removal uses a tunnel excavated through the dam at its base to rapidly drain the reservoir. The tunnel will be excavated by blasting. Specifics of the controlled blasting, including weight of explosives per hole and delay, frequency, peak particle velocities, and quality control, are included in the Technical Specifications prepared by Revey Associates, Incorporated, and the Blasting Plan prepared by the Decommissioning Contractor, JR Merit (Project Removal Design Report, Appendix L).

2 ORGANIZATION AND STAFFING RESPONSIBILITIES

2.1 RESPONSIBILITIES OF VARIOUS ORGANIZATIONS

An Organizational Chart for this project is presented in Appendix B.

PacifiCorp Energy is the project owner. PacifiCorp Energy's project manager is Mr. Tom Hickey of the Portland, Oregon office. PacifiCorp Energy has contracted JR Merit to decommission the Condit Hydroelectric Project as indicated on the Project Plans, Specifications and Management Plans. Except for the contractual relationship, PacifiCorp Energy is independent of all the project suppliers and contractors.

The Owner's Engineer, hereafter referred to as the Kleinfelder Team, consists of Kleinfelder, Jonasson Consultants, Revey Associates, HDR, Inter-Fluve, Greenworks, Finley Engineering Company, and Mead & Hunt. The Kleinfelder Team has been hired directly by PacifiCorp Energy and is independent of all contractors and suppliers. The Kleinfelder Team has no financial interest or relationship with any other party to the project. The Owner's Engineer will provide engineering support and construction management and inspection services during construction.

PacifiCorp Energy is independent of JR Merit and its sub-contractors and suppliers. Kleinfelder will provide construction inspection services and will be under the supervision of PacifiCorp Energy's Project Manager. Kleinfelder will designate an on-site Construction Manager who will be responsible for implementation of this Quality Control and Inspection Program.

The contract between PacifiCorp Energy and JR Merit uses a design-build approach and is in the form of an engineer, decommission, and dismantle contract. The work shall include, but not necessarily be limited to, those tasks identified in the decommissioning management plans, plans, and specifications.

The contractors and suppliers will have no financial relationships with any organization that has responsibility for implementing the Quality Control and Inspection Program. The Design-Build Contractor is responsible for its own quality assurance/quality control plan, which is independent of this Quality Control and Inspection Program.

2.2 NUMBER OF STAFF AND AVAILABILITY REQUIRED

The Construction Manager is PacifiCorp Energy's full time field representative responsible for implementing the Quality Control and Inspection Program. PacifiCorp Energy and the Kleinfelder Team will support the Construction Manager as required.

2.2.1 Titles, Duties and Responsibilities of Staff

The key personnel and their responsibilities are listed below:

- Project Manager Mr. Tom Hickey

- | | |
|------------------------------------|---------------------|
| • Kleinfelder Team Project Manager | Mr. Peter Stroud |
| • Construction Manager | Mr. Garth Wilson |
| • Construction Inspector(s) | Mr. Cris Watson |
| • Contractor Project Manager | Mr. Dale Kuykendall |
| • Environmental Compliance | Mr. Stephen Caruana |
| • Independent Testing Agency | Kleinfelder |

Project Manager, PacifiCorp Energy. Mr. Tom Hickey, the Project Manager, is responsible for coordinating and decommissioning activities for PacifiCorp Energy. Mr. Hickey will have oversight responsibility for assuring the Construction Manager implements the Quality Control and Inspection Program. He will be based in Portland, make periodic inspection trips to the site, and have the authority to stop work on any aspect of the construction.

Kleinfelder Team Project Manager, Mr. Peter Stroud: the Owner's Engineer Project Manager, is responsible for oversight and coordination of project design and construction support services. He will have oversight and responsibility for assuring that the project team implements the Quality Control and Inspection Program and will advise and support the Construction Manager with the implementation of the Quality Control and Inspection Program. He will make periodic inspection trips to the site and has the authority to stop work on any aspect of construction.

Construction Manager, Mr. Garth Wilson: the Construction Manager, will be responsible for implementation of the Quality Control and Inspection Program and to verify the construction is in conformance with the management plans, drawings, and specifications, and is consistent with industry standards and practices. He will be based at the construction site. The following activities will be performed by him or under his direction:

- Set up and maintain Quality Control and Inspection Program documentation, including daily inspection records, monthly project reports, non-conformance reports, progress photographs, and quality assurance/quality control reports.
- Perform and document inspection activities. He will have the authority to stop work due to quality or safety.
- Conduct inspections of workmanship and materials received at the site.
- Coordinate activities between the contractors and other parties to the construction.
- Oversee inspection activities of the Kleinfelder testing personnel.
- Ensure the safety and protection of the public, construction personnel, existing facilities, utilities, and existing facilities.
- Monitor compliance with environmental permitting, erosion control, stormwater management, and environmental restoration.
- Prepare a final construction report.

Construction Inspector, Mr. Cris Watkins: Supplement and support the work of the on-site Construction Manager. Mr. Watkins will have the authority to stop work through the Construction Manager.

2.3 SPECIALTY INSPECTORS

The Kleinfelder Team Blasting Specialist, Gordon Revey with Revey Associates, Incorporated, will provide periodic inspection during the tunnel construction. Per the project specification, the Contractor's Blasting Consultant (C. Richard Linamen), and/or their representative, will be on site full time during tunnel blasting activities. The Blasting Consultant will inspect and observe drilling and blasting procedures. In addition, JR Merit shall arrange a pre-blast survey of nearby building, structures, and utilities. During decommissioning activities, vibration monitoring will be performed to document seismic vibration levels.

2.4 LINES OF COMMUNICATION AND AUTHORITY

The lines of communication and authority are illustrated in the Organizational Chart presented in Appendix B.

2.5 APPROVAL AND REJECTION OF WORK

As a decommission and dismantle project, the emphasis of the Quality Control and Inspection Program is on the safe conduct of the work and compliance with environmental standards. The approval and rejection of work will be the responsibility of the Decommissioning Management Team shown in the Organizational Chart in Appendix B. The on-site Construction Manager will use the contractor's design documents, Decommissioning Management Plans, Drawings, Project Specifications and permits issued by regulatory agencies as the guide for determining the acceptability of the work; however, engineering judgment will supplement the project documents. The professional resources and support of the design team will also be actively engaged throughout the project.

2.6 AUTHORITY TO STOP WORK

The Project Manager, Kleinfelder Team Project Manager, and Construction Manager will have the authority to stop work due to nonconformance with the Project Specifications. Any team member or PacifiCorp Energy employee has authority to stop work due to adverse environmental, quality, or safety conditions through one of these three people.

2.7 STATEMENT OF INDEPENDENCE

All parties are independent of one another. The contractors invited to submit bid proposals will be independent of one another. The Owner's Engineer and Contractor are under separate contracts to provide services associated with decommissioning.

2.8 RESUMES

Appendix C presents the resumes of key project personnel.

3 INSPECTION PLAN AND FIELD PRACTICES

3.1 INSPECTION CRITERIA

Inspection criteria are set forth in the Project Specifications. Materials testing reference and standard documents, as well as frequency, can be found in Appendix D.

3.1.1 Knowledge of Contract Decommissioning Management Plans, Drawings, and Specifications

The personnel responsible for quality control/quality assurance shall review decommissioning management plans, drawings, specifications, permits, and other contract documents such as addenda, bulletins, and other revisions so that a complete understanding of all aspects of the work is achieved. This study will assist the Construction Manager and inspectors in making observations during inspection and in reviewing the Design-Build Contractor's schedule, equipment, activities testing, and documentation.

3.1.2 Inspection Equipment and Resources

Kleinfelder will provide the necessary equipment for sampling and testing concrete, soils, and other applicable construction materials.

3.2 CONTRACTOR OPERATIONS

The Design-Build Contractor's operation with regard to quality control is independent of this Quality Control and Inspection Program. It is not the intent of this document to address the quality control inspection and testing functions performed by the Design-Build Contractor. However, PacifiCorp Energy will confirm that the Contractor's operations are in accordance with the project design and specifications.

3.2.1 Coordination with Contractor's Schedule

The Design-Build Contractor will be required to provide a 24-hour notice when general inspections are required, and 72-hours' notice for critical events such as blasting. Weekly progress and construction meetings will be held with PacifiCorp Energy, contractors, and select design team members with the scheduling of inspections as a part of the meeting agenda.

3.3 QCIP OPERATIONS

The Contractor is contractually responsible for performing his work to the industry standard of care for similar types of work and the quality level established by the contract under which the work is performed. The Quality Control and Inspection Program consists of overall verification that the construction is in compliance with the permits, decommissioning management plans, specifications, and drawings.

The resident Construction Manager is responsible for observing and documenting the work performed. The types of documentation are described in Section 4 of this report.

The Construction Manager shall be familiar with the decommissioning management plans, technical specifications, construction plan drawings, supplemental reports, mitigation plans, and be responsible for immediately advising the Design-Build Contractor to correct any nonconforming work. The Construction Manager has the authority to stop work if inadequate quality or safety conditions are identified. Any Kleinfelder Team member or PacifiCorp Energy employee has authority to stop work due to inadequate quality through the Construction Manager.

The Design-Build Contractor is required to assign a superintendent on-site to receive directives regarding quality issues. The need for other staff members from the Design-Build Contractor to receive quality-related directives should be discussed and determined at the early stage of the construction. Quality communications should be between the project key personnel listed in Section 2.2.1 of this project and the Design-Build Contractor's Superintendent.

3.3.1 Frequency of Inspections

In general, daily inspections will be performed by the Construction Manager or Construction Inspector with periodic inspections by PacifiCorp Energy and the Kleinfelder Team. The frequency of inspection for each construction activity is based on the inspection level for the specific activity, which is explained in Tables 3-1 and 3-2.

Table 3-1 Inspection Level Definitions

Inspection Level	Definition
A	This category is full time and shall be inspected each time the construction activity is occurring in accordance with industry standards. Each inspection shall be documented at the time of the inspection.
B	This category shall be inspected each time the construction activity is occurring. Each inspection shall be documented at the time of the inspection. Inspection frequency will be a minimum of once per day while the work activity is being conducted.
C	General inspection surveillance of the indicated category shall be provided. The level of inspection effort shall be determined by the Construction Manager. Each inspection shall be documented in the Daily Log of the Construction Manager.

Table 3-2 Construction Inspection Requirements

Item	Level of Inspection
Bridge Stabilization - Drilling	A
Bridge Stabilization – Concrete Placement	B
Drain Tunnel Blasting (by specialty inspector)	C*
Contractor Environmental Protection Practices	B
Penstock Demolition and Removal	C
Dam Removal	C
Flowline Demolition & Removal	C
Surge Tank Demolition & Removal	C
Debris Removal	C
Earth Fill	C
Concrete Placement	B
Access Road Construction	C
Revegetation Work	C

*Note: Owner's Engineer Blasting Specialist will provide part-time inspection whereas; Contractor's Blasting Consultant will provide full-time inspection of the drain tunnel blasting.

3.3.2 Inspection Records

The Construction Manager shall develop a separate inspection file for each construction activity and file all inspection items related to this construction activity in that file. Section 4.4 provides the filing procedures. Inspection records will provide background information to issue Nonconformance Reports.

3.3.3 Documentation and Follow-up Action

Inspections (including from the Blasting Consultant), checklists, and results from the testing agency can result in the issuance of a Nonconformance Report. Section 4 contains additional information regarding Nonconformance Reports and letters.

Kleinfelder will be required to provide independent sampling, testing, and inspection reports. These reports will be maintained in the project file.

3.3.4 Training

General natural and cultural resource training will be required to be conducted on-site to address site specific issues related to the site conditions and the requirements of the permits and decommissioning management plans. In addition, all project personnel will be trained and qualified to perform their respective jobs and responsibilities. An informal review by the project team will be conducted as appropriate regarding decommissioning and operation of existing facilities. A safety meeting is required to be conducted each morning before work starts. The Construction Manager is responsible for seeing that this training is conducted on-site.

4 DOCUMENTATION

The following is a summary of the documentation to be used for this project.

4.1 DAILY INSPECTION REPORTS

The Construction Manager is required to maintain a Daily Log. The Daily Log is a factual recording of events affecting the project. The log book shall be written with the presumption that everything in it may be recalled publicly.

Daily entries will begin with the date of the entry and end with the author's signature. Entries should be written in ink and be continuous with no lines skipped. Any error made should be crossed out with only a single line through the entry and initialed by the author. Pages should not be torn out of the log book or left blank. A summary of daily information to include is as follows, but is not limited to the information listed below.

- Date
- Weather conditions
- Recommendations provided to the Contractor that are documented elsewhere
- Description of nonconformance materials, work, or equipment
- A brief description of work performed for the day, including the commencement or completion of any project milestones
- A brief description of type and amount of materials placed
- A brief review of public safety measures in-place and any incidents to report with respect to public safety
- Description of any delays in the construction
- Description of any disputes between contractors, subcontractors, Owner, testing agency, or the Kleinfelder Team
- A brief description of any accident the inspection staff observes or is involved in
- Description of work in which there is reason to believe a claim for extra compensation may be filed
- Review of testing laboratory equipment and procedures
- Instrumentation readings
- The names of visitors
- Record of correspondence

Only one log book should be maintained by the Construction Manager at one time. Completed log books should be filed in the project files. The log books are important documents and may be used in the settlement of disputes to reconstruct events after the fact, and may be used in litigation. Entries should be on a daily basis while the day's activities are fresh in the author's mind.

4.2 NONCONFORMANCE REPORTS

A Nonconformance Report and procedure have been developed to provide a standard document format and procedure for communicating with the Design-Build Contractor regarding construction process or quality nonconformance and required corrective action. A

nonconformance is defined as a deficiency in characteristic, documentation, or procedure that renders the Contractor's work unacceptable with respect to the environmental compliance or quality requirements of the contract documents. A Nonconformance Report form is presented in Appendix E.

The Construction Manager is responsible for initiating Nonconformance Reports. The Nonconformance Reports shall be numbered sequentially and filed in accordance with Section 4.4. The Nonconformance Reports shall be reviewed weekly by the Construction Manager to determine contractor compliance with corrective action requirements and identify the need for any follow-up action. In the event the Contractor fails to comply with the corrective action requirements of a Nonconformance Report, either unsatisfactory work or failure to meet the time requirements, the following procedure will be implemented:

1. The Project Manager and Construction Manager will jointly prepare a formal contract correspondence letter, with a copy of the original Nonconformance Report attached, advising the Contractor of his failure to meet the corrective action requirements.
2. The letter will establish a date when the corrective action must be satisfactorily completed and state that in the event of Contractor failure to satisfactorily complete the corrective action by this date, the corrective action work will be performed by others with all associated costs to his contract.
3. The letter shall state any other actions that PacifiCorp Energy may take under the terms of the contract as a result of failing to resolve the Nonconformance Report.
4. Copy distribution of all such follow-up Nonconformance Report correspondence shall be the same as the original report and shall be filed in the appropriate Nonconformance Report file.

4.3 OTHER PERIODIC REPORTS

Other periodic reports that document quality control issues are described in the following paragraphs:

4.3.1 Weekly Coordination Meetings

The Construction Manager shall conduct, at a minimum, a weekly construction coordination meeting with the superintendent of the Design-Build Contractor, and sub-contractors when appropriate. The main topics of the meeting will be project and public safety, environmental compliance, scheduling, coordinating work activities, and quality control issues.

Documentation of the meeting discussions shall be written in sentence and paragraph form with a new numbered sentence or paragraph for each item of business. The conclusion for each item discussed shall be recorded. The weekly construction coordination meetings shall be divided into three sections as follows.

1. Exceptions: The Contractor shall be given an opportunity to take exception to the minutes of the previous week's meeting. If exceptions are taken, the item should be corrected. If no exceptions are taken, it should be so stated.
2. Old Business: Items discussed in previous meetings are carried under this section and shall be carried there until the item is resolved or eliminated.
3. New Business: New items of business are carried under this section.

The minutes of the meeting shall be prepared in memorandum form and shall be published as soon as possible after the meeting. The Construction Manager and Design-Build Construction Contractor's Superintendent shall each sign the minutes prior to distribution. Distribution shall be as follows:

PacifiCorp Energy	-	2 copies Tom Hickey -1; Arianne Poindexter -1)
Kleinfelder Team	-	1 copy (Peter Stroud)
Meeting Attendees	-	1 copy each (e.g., Design-Build Contractor)

The original minutes shall be filed in the field files in accordance with the file procedure described in Section 4.4.

4.3.2 Monthly Construction Report

The PacifiCorp Energy and Kleinfelder Team Project Manager shall prepare a monthly construction report for each month construction is performed. A final construction report shall be prepared that summarizes all aspects of the project. The monthly report will summarize aspects of the project construction for that time period. The monthly report will include the following:

- Progress of work
- Public safety measures status
- Status of construction
- Construction difficulties
- Quality control issues
- Contract status
- Critical activities and dates
- Sources of major construction materials
- Testing laboratory results
- Instrumentation readings
- Select photographs of important activities/nonconformance items
- Environmental concerns
- Other items of interest

Distribution of the report shall be as follows:

- FERC 3 copies (transmitted by PacifiCorp Energy)
- PacifiCorp Energy 2 copies
- Kleinfelder Team 1 copy

- Contractor 1 copy

4.3.3 Test Reports

Certain construction work items may require testing as part of the quality control and assurance specified in the Project Specifications. The testing agency will provide test reports to document the testing. All testing reports should be filed in accordance with the filing procedures described in Section 4.4.

4.4 MAINTENANCE OF RECORDS

4.4.1 General Correspondence

All documents, correspondence, and data pertaining to the project should be identified and filed in the project's file.

4.4.2 Manufacturer's Drawings

Manufacturer's shop drawings should be maintained and filed in numerical order according to the shop drawing number. Superseded shop drawings should be discarded and replaced with the revised drawings leaving only the most recent issue in the files.

4.4.3 Contract Design Drawings and Specifications

Unless otherwise changed by the Construction Manager, at least two field sets of contract design drawings and specifications will be maintained; one set will be maintained as a record set and the other will be maintained as a work set.

4.4.4 Photographs

Digital photographs of activities will be taken throughout construction. Photographs will be identified and stored within the project's file. In addition, select photographs will be submitted within the monthly construction report. Each photo is to be visibly date stamped by the camera.

5 TRAINING

All personnel will be trained and qualified to perform their respective jobs and responsibilities and have, as a minimum, a basic knowledge of job safety and procedures that are customary to the construction industry.

5.1 STUDY MATERIALS

This section is not applicable for this project.

5.2 CLASSROOM INSTRUCTION

There is no classroom training planned for this project.

5.3 ON-THE-JOB TRAINING AND SUPERVISION

General natural and cultural resource training will be required to be conducted on-site to address site specific issues related to the site conditions and the requirements of the decommissioning management plans. Project safety meetings will be conducted as needed. Daily tailboard meetings will be required to address any construction-related issues.

5.4 PROFICIENCY TESTING AND CERTIFICATION

There is no proficiency testing or certification planned for this project. It is anticipated that the personnel involved shall have adequate training and required certification to do their required job.

5.5 RESUME UPDATE

Resumes will be updated as necessary.

6 MATERIAL TESTING

6.1 TESTING SCHEDULE

Testing frequency is provided in the Project Specifications and in Appendix D.

6.2 TESTING STANDARDS

The Project Specifications contain testing standards for quality control and quality assurance for each division. In addition, testing standards that will be used on a regular basis are listed in the Project Specifications.

6.3 TESTING ORGANIZATION

Kleinfelder will be the independent testing agency.

6.3.1 Adequacy of On-site Laboratory

An on-site laboratory will not be utilized for this project.

6.3.2 Adequacy of Off-site Laboratory

The Construction Manager will verify the adequacy of the testing agency personnel and their testing equipment. Checklist items will be reviewed and noted in the Daily Log, which will include testing personnel qualifications, quality assurance/quality control procedures, calibrations, equipment maintenance, procedures, test forms, and reports.

6.3.3 Evaluation of Testing Data and Actions Required

When test results are not in conformance with specifications, the Construction Manager, Design-Build Contractor, and PacifiCorp Energy will discuss and review the nonconformance item and form a conclusion. Every test that is not in conformance with project specifications will be documented along with the justification for acceptance or rejection.

6.3.4 Documentation

Kleinfelder will be responsible for supplying the documentation of the material testing program portion of the project. These documents will be saved in the project's file. Prior to the start of work, the documentation and material testing program will be reviewed by the Construction Manager.

7 EROSION CONTROL AND ENVIRONMENTAL COMPLIANCE

Erosion Control and Environmental Compliance for the project is included in the decommissioning management plans. These plans are incorporated into the Quality Control and Inspection Program by reference and are listed in detail below.

7.1 ENVIRONMENTAL COMPLIANCE PLAN

Environmental compliance for the project will be achieved through implementation of the following decommissioning management plans:

- Spill Prevention, Control, and Countermeasure Plan
- On-site Materials Waste Management Plan
- Dust Control Plan
- Environmental Monitoring Plan
- Revegetation and Wetlands Management Plan
- Aquatic Resources Protection Plan
- Woody Debris Management Plan

7.2 EROSION CONTROL PLAN

Erosion and sediment control for the project will be achieved through implementation of the following decommissioning management plans:

- Erosion Control Plan
- Sediment Assessment, Stabilization, and Management Plan

7.3 LICENSE REQUIREMENTS

Pursuant to the FERC project license, the Contractor will be required to take reasonable measures to prevent soil erosion or other forms of water pollution into adjacent waterways.

7.4 SPECIALIZED PLANS, PERMITS, AND APPROVALS

In addition to the decommissioning management plans, PacifiCorp Energy is also consulting with federal and state resource agencies and interest groups prior to undertaking this project and is acquiring the necessary permits from these agencies. Copies of these permits will be available to the FERC, and copies will be maintained on site.

7.5 FREQUENCY OF INSPECTIONS

The decommissioning management plans include implementation procedures including inspections that are specific to the purpose of those plans.

7.6 DOCUMENTATION AND CORRECTIVE ACTIONS

The decommissioning management plans include implementation procedures including inspection reports and contingency plans that are specific to the purpose of those plans.

7.7 ENVIRONMENTAL DEFICIENCY REPORT

The decommissioning management plans include implementation procedures including record keeping and contingency plans that are specific to the purpose of those plans.

8 SCHEDULE

8.1 START AND FINISH DATES

Decommissioning is scheduled to commence in October 2011. The following milestone project dates are based on this commencement date and are subject to change:

- Bridge Stabilization - June 1 to September 15, 2011
- Construct drain tunnel – August 1 to October 17, 2011
- Drain reservoir through tunnel – October 18, 2011
- Active sediment management – October 18, 2011 to December 31, 2012
- Revegetation – February 1 to December 12, 2012
- Remove flowline – April 1 to May 1, 2012
- Demolish dam – July 16 to September 21, 2012

8.2 ANTICIPATED CONSTRUCTION SEQUENCE

The following generalized construction sequencing will be utilized for safe removal of the dam and appurtenances:

8.2.1 Phase I - Pre-draining

- Draw down reservoir to elevation 285 and divert river flow through flowline
- Maintain continued operation of the powerhouse during flowline diversion for flow control
- Commence drain tunnel construction and terminate prior to breaking through into the reservoir
- Remove spillway gates
- Remove tailrace wall
- Cease operation of powerhouse
- Remove floating intake deck, timber deck, cabin boat docks, and log boom
- Clear sediment and debris upstream of drain tunnel
- Remove final drain tunnel plug to initiate reservoir sluicing

8.2.2 Phase II - Removal

- Maintain river flow through drain tunnel by removing any blockages
- Remove flowline, surge tank, and penstocks
- Remove upstream cofferdam and other large debris from drained reservoir
- Modify powerhouse and fill tailrace as required
- Commence concrete dam removal

8.2.3 Phase III – Restoration

- Restore site in accordance with the decommissioning management plans, drawings, and specifications

9 PLANNED USE OF CONSULTANTS

9.1 AREAS OF INSPECTION AND REVIEW

The Kleinfelder team of consultants will provide necessary professional services in support of the field decommissioning activities and will include, but not be limited to:

- Construction management
- Design team consultation and review
- Materials testing and inspection

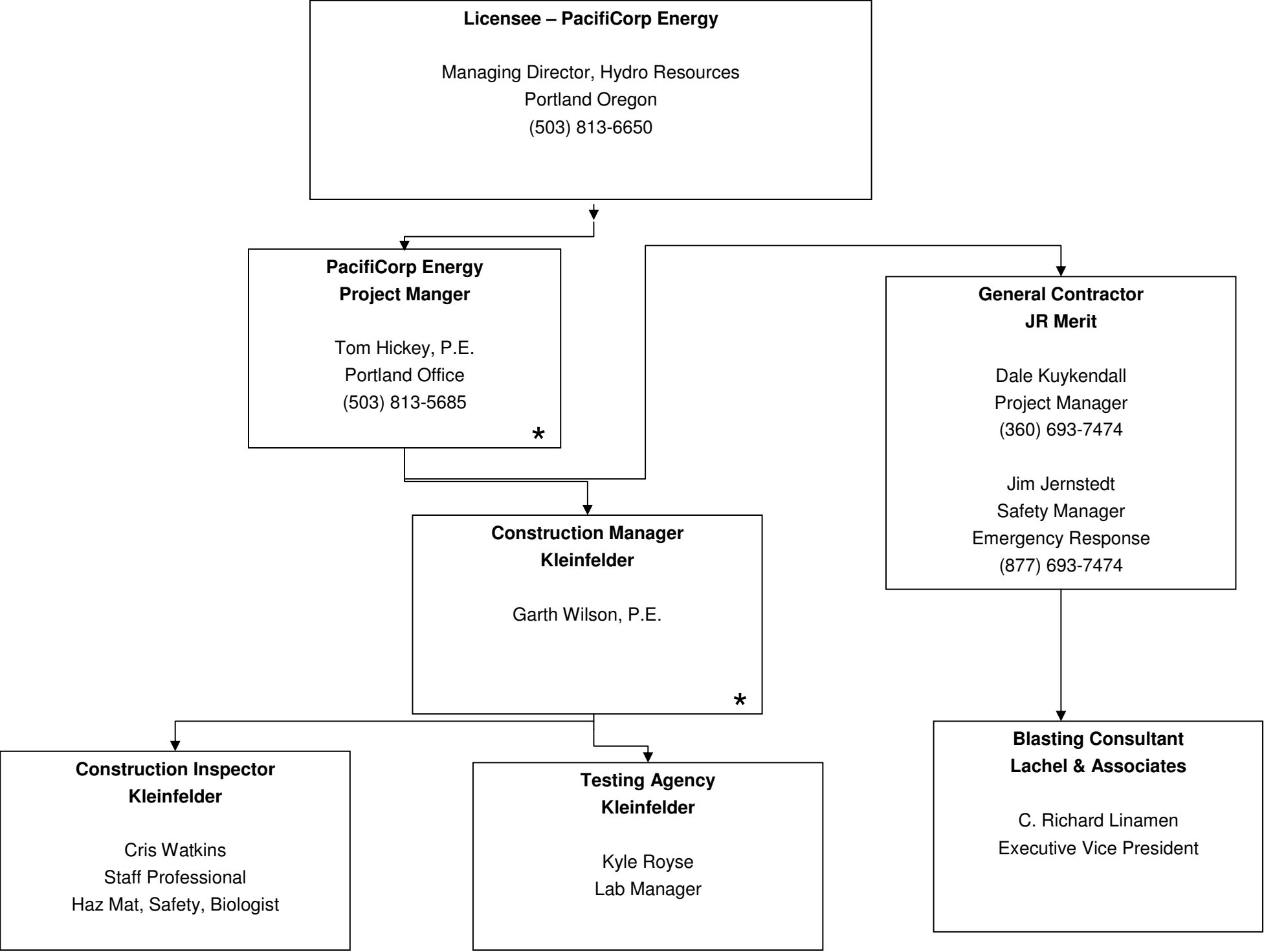
9.2 CONSULTANT'S NAMES AND RESUMES

Resumes for PacifiCorp Energy, Kleinfelder's construction manager and blasting specialist, and the decommissioning contractor's team key staff are included in Appendix C. Key personnel are illustrated in the organizational chart in Appendix B.

APPENDIX A. PROJECT OVERVIEW DRAWING

APPENDIX B. ORGANIZATIONAL CHART

Condit Hydroelectric Project
FERC Project No. 2342
Condit Dam
Decommissioning Management Organization Chart



* Indicates the authority to stop work on any aspect of the decommissioning.

APPENDIX C. RESUMES



Thomas Hickey, P.E.

POSITION IN FIRM: **Senior Engineer**

YEARS WITH FIRM: 3

TOTAL YEARS OF EXPERIENCE: 25

KEY QUALIFICATIONS:

Experienced project manager and team leader in diverse settings and disciplines; skilled at problem solving and attaining organizational goals.

Civil Engineer with experience in all phases of project development.

EDUCATION:

Master of Science in Civil Engineering – University of Illinois at Urbana-Champaign

Bachelor of Science in Civil Engineering – United States Coast Guard Academy

Professional Engineer, Commonwealth of Virginia

EXPERIENCE RECORD:

Soda Springs Fish Passage

PacifiCorp Energy

Project engineer on major construction to provide volitional fish passage at the Soda Springs development of the North Umpqua Hydroelectric Project. Project includes construction of a fish ladder to provide a 70-foot elevation difference and passage past the dam. Coordinated contractor preparation of submittals and Federal Energy Regulatory Commission approval for construction plans including blasting, dewatering and emergency action. Coordinated review and approval of significant design changes driven by unanticipated site conditions.

Toketee Development Intake Modifications

PacifiCorp Energy

Project Manager on project to provide fish exclusion at the intake of the Toketee development of the North Umpqua Hydroelectric Project. Developed project scoping documents and procured engineer-procure-construct contract for the work. Led project team through design, agency review, permitting and construction processes. Scope of project included removing an existing manual trash rake and intake bar rack with 2" spacing. An expanded bar rack with ½" spacing, and automatic trash rake and a debris conveyor system were constructed. Ensured timely work completion during a 10 day plant outage.

Yale Bull Trout Entrainment Reduction*PacifiCorp Energy*

Project Manager on project to implement entrainment reduction measures at the Yale Hydroelectric Project, located on the Lewis River near Cougar, Washington. Developed project scoping documents and procured engineer-procure-construct contract for the work. Led project team through design, agency review, permitting and construction processes. Scope of project included construction of an approximately 70,000 square foot net spanning the intake structure of the plant. Ensured timely work completion during a 5 day plant outage.

Yale Intake Structure – Replacement of Steel Components*PacifiCorp Energy*

Project Manager on project to replace deteriorated steel members of the intake structure at the Yale Hydroelectric Project, located on the Lewis River near Cougar, Washington. Developed project scoping documents and procured construction contracts for the work. Led detailed project planning including dive surveys of the structure, evaluation of condition of components, and scope of replacement work. Reviewed contractor-developed work plans to ensure safe operations within the structure and to ensure detailed plans to maintain tight outage schedule.

Energy Saving Performance Contract*U. S. Coast Guard*

Led project development and procurement process to leverage \$10 million in private-sector financing for energy conservation measures at nine sites in the Pacific Area. Improved facilities performance and reduced energy consumption by 20% through implementation of measures including solar photovoltaic, solar hot water, lighting efficiency, and building systems efficiency.

National Security Cutter Home Port*U. S. Coast Guard*

Completed group of waterfront projects to support establishment a home port for a new class of Coast Guard cutters. Major elements of work included renovation of structural components of a concrete pier and dredging of the approach and berths. Due to a late-stage change in ship specifications, the dredging was completed on a compressed timeline requiring expedited regulatory approvals of state and federal agencies.

Sector New York Surge Operations Facilities*U. S. Coast Guard*

Oversaw development of extensive facilities for rapid expansion of harbor security mission in the Port of New York/New Jersey and the mobilization of 250 reserve members. Six months after need was identified, opened a \$1M boat operations base to support the mission

Station New York Waterfront Renovation*U. S. Coast Guard*

Completed \$3M renovation of station waterfront facilities including breakwater replacement, partial pier reconstruction, floating docks, utilities and dredging. Coordinated with ongoing operations and with adjacent National Park Service Unit on sensitive environmental issues.



GARTH L. WILSON, P.E.
Principal Engineer

Key Qualifications

Mr. Wilson specializes in the construction of large-scale, heavy civil projects including dams, pipelines, canals, tunnels, surface mining, highways, bridges, interchanges, environmental restoration, water treatment facilities and hydroelectric powerplants. His 39 years of experience includes 6 years as a representative of the owner, 23 years in construction management and design for consulting engineering firms, and 10 years managing operations and cost estimating as a heavy civil contractor. His experience includes projects where more than 200 million cubic yards (153 million m³) of earth materials were moved; he has worked on high pressure welded steel, HDPE and concrete water pipelines; his powerplant experience includes underground, indoor, and semi-outdoor installations to 1180MW; his water and wastewater treatment plant experience includes expansion of facilities to 18 mgd (68 mld); he has worked on both simple and complex road, highway, interchange and steel, box girder and post-tensioned concrete bridge projects; and his tunneling experience includes bores to 48-foot (14.6 m) diameter. He has worked in multi-million dollar Program and Project Management roles on Design/Bid/Build; Design/Build; and Engineer/Procure/Construct projects.

Education

B.S. Civil Engineering, University of North Dakota, Grand Forks, North Dakota, 1964
Construction Safety Training, 1985 & 2002
Construction Project Administration and Claims Avoidance, 1991
WinEst Construction Cost Estimating, 1994
Primavera Project Planning and Scheduling, 1995

Professional Registration / Certifications

Registered Engineer, Province of British Columbia, Canada
Life Fellow, American Society of Civil Engineers
Member, Canadian Society for Civil Engineering
Member, Society for Mining, Metallurgy, and Exploration
Member, Dispute Resolution Board Foundation

Experience Record

Boulder Canyon Hydro, CO

Prepared cost estimates and a preliminary construction schedule in pursuit of funding for replacement of 1908 hydroelectric turbine/generator equipment with a new 5 MW Pelton turbine and synchronous generator. The system operates at a head of 1820 feet (555 m) and will include a new turbine inlet valve, hydraulic power unit, controls, step-up transformer and switchgear.

Upper Chiquita Reservoir Project, CA

Prepared contractor-type construction cost estimate and schedule for an off-stream 172 foot (52.5 m) high zoned earthfill dam, Hypalon lined and covered reservoir, 42-inch (107 cm) diameter steel inlet pipe, 48-inch (122 cm) diameter steel outlet pipe with multilevel intakes and 48-inch (122 cm) diameter steel pipe



spillway structure. The \$40 million project is to store 800 acre-feet (987,000 m³) of treated water for emergency supply.

San Vicente Dam, San Diego, CA

Senior Specialist Engineer on a team preparing a \$25.7 million proposal for construction management services to raise an existing dam by 117 feet (36 m) using Roller Compacted Concrete (RCC). Construction of access roads, relocation of marina facilities and modifications to the outlet works and spillway are included in the \$568 million program.

Seymour Falls Dam, British Columbia, Canada

Site Construction Project Manager during CDN \$35 million seismic retrofitting of a 98 ft (30 m) high slab and buttress/earthfill dam involving 190,000 cubic yards (145,000 m³) foundation excavation, 370,000 cubic yards (283,000 m³) embankment materials and 16,000 cubic yards (12,200 m³) mass concrete. Numerous post-tensioned anchors were placed in the old and new structures for seismic stability. Successfully negotiated all changes and extra work items at the site level to complete the project on schedule and under budget.

Nam Theun 2 Hydroelectric Project, Laos

Member of a team to review design compliance and scheduling issues for a 157.5-foot (48 m) high RCC main dam, 13 saddle dams, 9,777-foot (2,780 m) long tunnels and shafts, 1,086 MW powerplant, 86-mile (138 km) long 500 kV transmission line, 43-mile (70 km) long 115 kV transmission line, 79-foot (24 m) high regulating dam, and 17-mile (27 km) long discharge channel with a total \$1.25 billion cost.

Alpaslan II Dam and Hydroelectric Plant, Turkey

Assisted the construction joint venture of an international design/build team with planning and scheduling for construction of a 426-foot (130-meter) high earth/rockfill dam having a volume of 22 million cubic yards (17 million m³) with associated gated spillway, diversion/outlet and power tunnels and 200 MW powerplant with a total cost of \$500 million.

Halligan Dam, CO

Reviewed documents and drawings and prepared cost estimates during the feasibility study to construct a water storage dam for the City of Fort Collins. A total of 26 combinations of dam types, sizes and locations were studied. Prepared estimated construction costs for all options.

Abiquiu Dam Emergency Gates, New Mexico

Provided technical advice for the Design/Build team in connection with the repair of two, 5 ft x 9 ft (1.5 m x 2.7 m), high-pressure slide gates on the outlet tunnel system at Abiquiu Dam. Project Manager for the design of a temporary inlet bulkhead gate to be used to control flows through the tunnel during the repair process.

Lakewood Hydroelectric Facility, CO

Reviewed documents and drawings for constructability and prepared an estimate of probable construction cost. Provided advice during the design phase and assisted in administration of the construction contract to deliver and install an 1880-foot (573 m) head Pelton turbine/ generator unit of 3.6 MW capacity.



Lyman Lake Dams, AZ

Prepared engineer's opinion of probable construction cost during final design and rehabilitation of two earthfill embankment dams, 64 and 35-feet (19.5 and 10.7 m) high, and an uncontrolled spillway. Program Manager for construction management, environmental and testing services.

Torata River Flood Control Project, Peru

Prepared engineer's opinion of probable construction cost and preliminary construction CPM schedule for a 380-foot (115 m) high concrete faced rockfill dam with a gated, multi-level intake structure, outlet works and 7-mile (11.3 km) long, 9.8-foot (3 m) diameter water conveyance tunnel and 7-mile (11.3 km) long twin HDPE pipeline. Program Manager for design engineering and procurement services during construction of the \$75.5 million project.

Logan First Dam, UT

Provided management oversight during the design for rehabilitation of the dam and spillway and replacement of the powerplant. The dam is a concrete buttress structure with a maximum height of 45-ft (13.7 m) and the powerplant is 300 KW. Prepared Engineer's estimate of construction cost and assisted with home office support during construction.

Silver Lake Hydroelectric Facility, CO

Reviewed documents and drawings for constructability and prepared an estimate of probable construction cost. Provided advice on the administration of the contracts to construct the powerplant building and a 1550-foot (472 m) head Pelton turbine/ generator unit with a capacity of 3.2 MW. This project won the ACEC Award of Merit in 2000.

Carraizo Dam Spillway Gates, Puerto Rico

Project Officer during the preliminary design and preparation of bid documents for replacement of eight 40 ft x 35 ft (12 m x 10.7 m) spillway tainter gates. Prepared engineer's estimate of construction cost. Oversaw the review of contractor's final design data.

Goose Lake Dam, CO

Provided management oversight during final design and construction management for rehabilitation of a 33-ft (10 m) high, rock-filled timber crib dam above elevation 10,500-ft (3,200 m).

Batuteji Dam, Indonesia

Provided home office coordination for specification preparation, bid assistance and evaluations, contract administration, construction monitoring, and shop drawing reviews for tunneling, hydromechanical, and transmission line aspects during construction of a 393-foot (120 m) high earthfill dam and 24 MW powerplant with an 11-foot (3.4 m) diameter power tunnel and a 35-foot (10.7 m) diameter diversion/spillway tunnel.

Milton Seaman Dam Spillway, CO

Reviewed plans and specifications for constructability and assisted in the administration of the construction contract for a 130-foot (40 m) wide, 16-foot (5 m) high reinforced concrete labyrinth weir control structure designed to discharge 40,000 cfs (1,133 cms). This Project earned the ACEC Engineering Excellence Award in 1998.



CRIS WATKINS
Environmental Scientist

Key Qualifications

Mr. Watkins has over 10 years of experience as an Environmental Scientist and Safety Professional performing various field and office tasks associated with health and safety management, construction management, biological assessments, and Phase I and Phase II Environmental Site Assessments (ESAs).

Mr. Watkins is a Certified Erosion and Sediment Control Lead and has provided construction management and oversight for various small and large projects including sites with contaminated media. Mr. Watkins has conducted stormwater monitoring for large industrial properties on the Willamette River and has assisted in the preparation of Storm Water Pollution Prevention Plans (SWPPP) and Stormwater Pollution Countermeasure and Control Plans (SPCC). He has also monitored revegetation sites and is trained for wetland assessment and delineation. Mr. Watkins conducts Hazardous Building Material Surveys for buildings planned for demolition. Additional experience includes managing projects including client and regulatory communications, data analysis, report preparation, and negotiations with regulatory agencies. Prior experience also includes health and safety management in a manufacturing and office environment.

Mr. Watkins has been the designated Health & Safety Officer for Kleinfelder's Portland office since 2007. His duties consist of monthly health and safety training meetings for field and office employees and preparing and reviewing health and safety plans and job safety analysis documents. Mr. Watkins is also one of ten trainers in Kleinfelder for the Loss Prevention System (LPS), which is a licensed approach used by our employees to manage safety and risk associated with accidents and losses.

Education

BA, Biology, California State University, San Francisco, 2000
Basic Wetlands Delineation, Wetlands Training Institute, 2007
Wetlands Plants of the Northwest, Portland State University, Oregon, 2007
Hydric Soils Indicators, Portland State University, Oregon, 2009
Professional Certificate of Completion in Wetland Delineation, Portland State University, Oregon, 2009

Professional Registration / Certifications

Certified Erosion Control and Sediment Lead
Loss Prevention System (LPS) Trainer
AHERA Certified Asbestos Inspector
OSHA 40-Hour HAZWOPER
OSHA 10- and 30-Hour General Industry Trainer
DEQ Soil Matrix Supervisor, State of Oregon
UST Site Assessor, State of Washington
Radiation Safety and Nuclear Gauge
CPR and First Aid Certification, American Heart Association



Experience Record

PacifiCorp Energy, Condit Dam Decommissioning, White Salmon, Washington

Prepared various pre-decommissioning plans including sediment sampling and analysis plans, environmental monitoring plans, and health and safety plans. Conducted sediment sampling in Northwestern Lake, White Salmon River, and selected tributaries to the Columbia River and White Salmon River.

Exxon Mobil, Safety Manager for Soil Remediation Excavation and Disposal, Guymon, Oklahoma

Performed loss prevention training for key staff and contractors prior to project commencement. Created safety-related job loss analysis (JLAs) for site specific tasks. Provided construction safety oversight for multiple work areas including an 8.5-acre contaminated soil excavation area, 20-acre contaminated soil/mulch/compost mixing area, and a 400-acre final product distribution area. Generated daily field reports including safety inspections, volume logs, and calculations.

Truax Retail Petroleum Sites, Construction Oversight for Remedial System Installations, Phase II Site Investigations, Multiple Site, Oregon

Construction oversight during excavation, utility trenching, foundation concrete pours, and installation of multiple mechanical systems. Conducted Phase II site investigations (hollow stem auger, direct push, vacuum truck clearing, and sonic drilling), surface water sampling, well installation, mobile and in-place remediation system operations and maintenance, soil and groundwater sampling, and risk based evaluations for site closure for 30+ retail and bulk petroleum sites throughout the State of Oregon.

Gunderson, Inc., Construction Oversight for Installation, Operations, and Maintenance of AS/SVE and Pump and Treat Systems, Groundwater Monitoring, and Stormwater Sampling, NW Front Street, Portland, Oregon

Provided construction oversight during concrete cutting, excavation, foundation pours, and mechanical system installation for multiple remediation systems to assess compliance with design and loss prevention standards. Sampled soil, groundwater, and stormwater at a large industrial site with multiple contaminant plumes which involved metals, petroleum hydrocarbons, and chlorinated solvents. Evaluated analytical data to determine compliance with permits and provided recommendations regarding necessary remedial actions. Operated and maintained multiple remediation systems.

City of Troutdale, Hazardous Building Material Survey and Phase I ESA of the Troutdale Wastewater Treatment Plant and Adjacent Warehouse Structures for Future Redevelopment, Troutdale, Oregon

Identified and collected suspected asbestos-containing materials from various buildings and structures including a 100-year old warehouse. Conducted test pits to identify potential subsurface impacts due to buried tanks, drums, or hazardous waste.

Private Retail Client, Wetland Buffer Monitoring, Clackamas, Oregon

Provided annual monitoring of a planted upland wetland buffer, which was installed to protect a natural wetland, as required by Clackamas County. Monitoring consisted of assessing invasive species encroachment, irrigation system operation and maintenance, plant mortality, and overall plant health.



KYLE ROYSE
Lab Manager

Key Qualifications

Mr. Royse has more than five years of experience in general building construction and in the testing and special inspection of soils, asphalt, and concrete pavements; reinforcing steel; structural masonry; reinforced concrete; high strength bolting; and spray-applied fireproofing. He manages Kleinfelder's state-of-the-art, in-house laboratory in Beaverton, Oregon. The lab is fully equipped to run geotechnical and construction materials tests, which include aggregates, asphalt, concrete, soils, masonry, and steel. His responsibilities have included providing testing and inspection services on streets and roadways, commercial buildings, educational facilities, correctional institutions, water pollution control facilities, and airport projects. He has experience in performing special assignments such as floor flatness and levelness testing, pachometer testing, and pull-testing. Mr. Royse is certified by ICC in four special inspection categories, has extensive laboratory experience, and has a broad knowledge of the construction industry.

Education

BS, Business, Linfield College, Oregon, 2005
Certificate, Accounting, Linfield College, Oregon, 2009
Vocational Training, Larsen Inspection Training, 2006 - 2009

Professional Registration / Certifications

ACI - Concrete Field Testing Technician, Level I
ICC - Spray-applied Fireproofing Special Inspector
ICC - Structural Masonry Special Inspector
ICC - Reinforced Concrete Special Inspector Associate
ICC - Structural Steel and Bolting Special Inspector
OBOA (Oregon Building Officials Association) - Special Inspector - Reinforced Concrete
OBOA (Oregon Building Officials Association) - Special Inspector - Structural Masonry
OBOA (Oregon Building Officials Association) - Special Inspector - Spray-Applied Fireproofing
ODOT - Certified Quality Control Technician

Laboratory Accreditations

OBOA, Oregon Building Officials Association - Laboratory Accreditation
IAS, International Accreditation Service - Laboratory Accreditation

Experience Record

Deer Ridge Correctional Facility, Madras, Oregon

Mr. Royse performed material testing services during construction of the 585,000 sq. ft. multi-story minimum and medium security facilities. His responsibilities included performing special inspections of reinforcing steel, reinforced concrete, structural masonry, epoxy anchored bolts and dowels, and spray-applied fireproofing materials.



Walmart Supercenter, Redmond, Oregon

As lead inspector, Mr. Royse coordinated and performed materials testing and special inspections throughout the project. Special inspection and material testing duties included: reinforced concrete, structural masonry, and soils inspection.

Glaze Meadow Recreational Center, Black Butte Ranch, Oregon

As lead inspector, Mr. Royse was responsible for materials testing and special inspection services throughout the project. He provided special inspections and testing for reinforced concrete and structural masonry during the construction phase of this 280,000 square foot structure.

Water Pollution Control Facility, Redmond, Oregon

As lead inspector, Mr. Royse performed special inspection and materials testing services during the construction of a waste water pollution facility consisting of multiple structures, clarifiers, and aeration basins. Special inspection and materials testing services included: placement of reinforcing steel, structural masonry, reinforced concrete, and installation and tightening of high-strength bolts. As lead inspector, Mr. Royse coordinated all special inspection and materials testing activities. He also acted as the primary liaison between Kleinfelder and the construction management staff.

Coyote Ridge Correctional Facility, Connell, Washington

This project consisted of a minimum security prison facility expansion of 21 new structures on a 110 acre site. Mr. Royse was responsible for performing special inspections of reinforcing steel, reinforced concrete, structural masonry, and epoxy anchored bolts and dowels.

Costco Wholesale Warehouse, Warrenton, Oregon

Mr. Royse provided full-time inspection of reinforced concrete, structural masonry, high-strength bolting, and reinforcing steel during the construction of this new, 157,000 square foot facility. He supervised additional Kleinfelder site personnel, providing updates on project information, RFIs, and change orders. Mr. Royse was able to collect and communicate vital onsite information to Kleinfelder's geotechnical engineers and implement solutions which kept the project on-schedule.

Walmart Supercenter #2469, Longview, Washington

As lead inspector, Mr. Royse coordinated and performed materials testing and special inspections throughout the project. Special inspection and material testing duties included: reinforced concrete, structural masonry, soils inspection, and the roadway and parking lot paving procedures. In addition, Mr. Royse was the coordinator of inspections and testing.

GORDON F. REVEY, P. ENG*

Registered in Province of Ontario, Canada

PRINCIPAL – REVEY Associates, Inc.

9250 E. Morning Star Place

Parker, CO 80134-5611

Phone: (303) 470-0416 Fax: (303) 791-0140 E-mail: grevey@earthlink.net

BLAST-ENGINEERING & VIBRATION-NOISE CONSULTING QUALIFICATIONS

Providing consulting services to the mining and heavy construction industry and its Engineering and Management Firms. Services include all blasting related design, training, environmental impact controls, and risk management work.

EXPERIENCE

1996--

Professional Blasting & Vibration/Noise and Mining Engineering Consultant

Providing explosives related training, design, and risk management services.

1987—1996

Technical Manager—Western Division ICI Explosives USA, Western Division (formerly Atlas Powder Company, now ORICA Inc.)

- Worked in a number of subordinate positions leading to appointment as Div. Technical Manager.
- Provided and coordinated technical services and training to the mining and construction industry.
- Responsible for explosives, safety and blasting application technical support to major construction and mining sites where damage and vibration control were critical.
- Supervised and lectured at more than twenty Blasters License Training Courses. Certified as trainer in the states of Kentucky, Colorado, Montana, California, New Mexico, Hawaii and Nevada.

1985--

General Manager, Atlas Blasting Services—Millersville, Tn.

Managed explosives sales and service business operating throughout the State of Tennessee. Directly supervised crews performing contract-blasting services to quarries and construction projects. Also directly responsible for on-site storage and over-the-road explosive transportation operations.

1984--

Technical Sales Representative, Atlas Powder Company – Madisonville, Ky.

Provided direct technical support to surface coal mining, and underground coal mining development projects.

1983--

Training Specialist, Atlas Powder Company – Tamaqua, Pa.

Developed company safety and application training programs. Served as editor for “Explosives and Rock Blasting” handbook.

1981—

Research Engineer, INCO Metals Mines Research – Copper Cliff, Ont. Canada

Directed all underground blasting research to improve mining methods and developed specialized state-of-art blast vibration/air-overpressure monitoring and control systems.

EXPERIENCE Continued

1980—

Mine Planner, INCO Metals – Copper Cliff South Mine, Copper Cliff, Ont. Canada

Responsible for mine-planning work and methods development.

1975—76

Driller, INCO Metals -- Frood Mine, Sudbury, Ont. Canada

Operated various hand held and automated drilling equipment and performed blasting work in various mining and development operations.

PROJECT CONSULTING EXPERIENCE (Very limited listing – less than 10% of overall projects.)

Cheesman Dam Outlet Modifications Project – 2008-2010, Deckers, CO. Developed blasting controls and specifications, and provided oversight of underwater blasting work done by saturation divers at depths up to 200 feet. Work for Denver Water was done to enlarge outlet rock tunnel openings, constructed around 1900, to facilitate installation of new control gates.

Bujagali Hydroelectric Project – 2010, Uganda, Africa. Evaluated blasting impacts to structures in Villages surrounding foundation and quarry blasting work associated with the construction of the 250-megawatt Bujagali Hydropower Project constructed on the Victoria Nile River near the Town of Jinja, in Uganda, by Bujagali Energy Limited (BEL).

FERMILABS Far Detector Facility Project – 2009-2010, Ash River, MN. Evaluated rock blasting work and developed improved blasting methods and controls to prevent overbreak and damage to foundation excavation rock walls.

Columbia River Channel Improvement Project – 2007-2009, St Helens, OR. Developed specifications and risk management systems for rock blasting and water-overpressure monitoring work to facilitate deepening of the shipping channel. Provided on-site training to USACOE Portland District staff and did oversight inspection of on-river work.

Center for Disease Control Building 23 and 24 Projects – 2007-2009, Atlanta, GA. Developed controlled blasting plans and directed a team of on-site inspectors that oversaw critical close-in blasting work for a deep foundation excavation located within 10 feet of adjacent buildings. Contractor: Turner Construction Co.

EDUCATION

B. Eng., Mining Engineering, 1980, Laurentian University, Sudbury, Ontario, Canada

Regularly participate in professional society meetings and conferences – Attended more than 40.

PROFESSIONAL MEMBERSHIPS

1. Association of Professional Engineers of Ontario, Canada -- PEO
2. International Society of Explosive Engineers – ISEE (Elected to National Board of Directors - 2001)
3. American Society of Civil Engineers – ASCE
4. American Society of Dam Safety Officials (ASDSO)
5. US Society on Dams (USSD)

DALE KUYKENDALL



PROJECT MANAGER

Mr. Kuykendall's post-college construction career began in 1985 as an estimator trainee. Moving from estimator trainee, to many roles as lead or support estimator, then to project engineer, his project management career was well-primed. In 2005, Mr. Kuykendall absorbed the role of proposal preparation and upcoming project tracking, after which he took on the role of Senior Project Manager, managing multiple PMs and Superintendents. He has also served on Company Executive Committees, helping to manage overall company operations.

EDUCATION & TRAINING

Oregon State University, B.S. Construction Engineering Management, 1985

Portland Chapter Construction Specifications Institute (CSI), 1986-Present, Board of Directors 1992-1999, President 1995-1997

Established CSI Contractor's Share Group and obtained Certified Construction Contracts Administrator (CCAA) designation.

Associated General Contractors, Supervisory Training Program; Leadership in Construction Program

RELEVANT EXPERIENCE

CONSTRUCTION OF HAPPY VALLEY ELEMENTARY/MIDDLE SCHOOL

NORTH CLACKAMAS SCHOOL DIST— **Happy Valley, OR**
\$39,600,000

Project Manager

A new 3-story, 186,000-sf combination elementary and middle school was built to replace an aged facility on the same site. Mr. Kuykendall's company was retained as the District's CM/GC contractor after another contractor elected to withdraw from the project. In an abbreviated preconstruction period, Mr. Kuykendall was able to develop an effective site logistics plan to protect the existing school, manage bid packages to allow for an early start, and refine the gross margin percentage to save the District several million dollars.

RELEVANT EXPERIENCE

(CONTINUED)

SIGNIFICANT COASTAL EXPERIENCE PROJECTS

OREGON YOUTH AUTHORITY — **Various Locations**

\$40,000,000

Project Manager

Mr. Kuykendall's company was hired as a CM/GC contractor by the Oregon Youth Authority to simultaneously construct five nearly identical youth detention facilities around the state. This \$40 million contract was executed in Warrenton, Albany, Burns, Prineville and Grants Pass. In addition, the project team was retained to construct a \$3 million juvenile "boot camp" in Tillamook. Both the Warrenton and Tillamook projects required careful planning and execution due to the coastal weather conditions. In addition, at the Warrenton site, due to poor soil conditions, a large quantity of piling were installed.

SOU LIBRARY ENHANCEMENTS

MCNAMARA ENGINEERING— **Ashland, OR**

\$16,333,000

Project Manager

Under a CM/GC contract, Mr. Kuykendall's team partnered with the University and architect on this 57,000-sf addition and renovation of the 64,000-sf existing library. The project was very similar to Design-Build, in that the estimating and project teams collaborated with the entire client team from the initial concept drawings through construction. Designed to meet LEED® Silver status, creative use of daylight and motion-sensitive lighting controls in the stacks contributed to energy savings of 20% over Oregon code requirements. Another interesting aspect of the project was a secure Special Collections and University Archives area that features a climate controlled area for irreplaceable and historically significant material.

ENVIRONMENTAL HEALTH & SAFETY DIRECTOR

Environmental Health & Safety training administration, compliance management, safety & human resource management, teambuilding, in-house Industrial Rescue Team management. Mr. Jernstedt is trained extensively in large-scale disaster emergency response and serves as a volunteer on various local area emergency response teams. Mr. Jernstedt is also a former Oregon Air National Guard service member, 29 years, retired. His diverse certifications and specialized trainings include:

- 80hr HAZWOPER
- Adult First-Aid & CPR
- Confined Space Entry Rescue Refresher
- Confined Space Entry Trainer & Rescue Trainer
- Competent Person General Safety (OSHA 500)
- Emergency Responder Training, City of Gresham, (CERT Team)
- ABC Step Platinum Safety Award, JR Merit 2003
- MCAA No Lost Time Accidents Award, JR Merit

BENEFIT TO PROJECT

28 years in the safety industry

Modeled JR Merit's daily Job Safety Analysis Tailboard program after the current PacifiCorp tailboard program

8 years experience as onsite safety director for PacifiCorp facilities in (6) states

Trained in all PacifiCorp-specific lockout/tagout procedures

RELEVANT EXPERIENCE

HYDROELECTRIC PROJECT DECOMMISSIONING - BULL RUN

PORTLAND GENERAL ELECTRIC— **Sandy, OR**

Safety Director, Full Time, On-site

Total Project hours: 16,283, Incident-free

Safety scope included: High-risk flume removal by airlift, public safety, site security and fire hazards. Worked with helicopter subcontractor to develop an airlift Safe Work Plan, including designation of safety zones, planning of drop zone for hazardous material, safety briefings, and additional safe work instructions. Mr. Jernstedt worked with D.O.T. to develop an alternate route around the work area and assisted in public relations communications to keep local residents safe and fully informed of work progress. Worked with the local Fire Marshall and Forest Service to adapt a work plan and constantly monitor the work done during high fire risk season.

RELEVANT EXPERIENCE

(CONTINUED)

HYDRO TURBINE OVERHAUL - SWIFT UNIT 13 (EMERGENCY RESPONSE)

PACIFICORP — **Cougar, WA**

Safety Director, Day-shift, On-site

Total Project hours: 45,000, Incident-free

After a landslide in 2009, JR Merit provided emergency response to the Swift 1 powerhouse, located on the Lewis River in Washington. Operations continued 24 hours per day as crews removed 200 cubic yards of debris from the damaged powerhouse, stabilized the damaged slope, rebuilt the powerhouse, and performed extensive mechanical work to the Unit 13 turbine generator. As day-shift safety director on a high-pressure, 24-hour emergency damage assessment/repair project Mr. Jernstedt assisted in the management of 45,000 man hours in 45 days by managing safety compliance of the entire JR Merit team and its subcontractors. Entire project was incident-free.

HYDROELECTRIC PROJECT DECOMMISSIONING - COVE

PACIFICORP — **Grace, ID**

Safety Director, Full Time, On-site

Total Project hours: 1,987, Incident-free

Safety scope included: Water safety, in-water work, heavy equipment flume demolition, and environmentally-sensitive work areas. Mr. Jernstedt worked directly with client to set-up an in-water hazardous spill containment plan, where crews proactively placed booms in the river. Mr. Jernstedt monitored safety compliance of crews and subcontractors, including high-visibility vests, and flagging and monitoring of environmentally sensitive areas. Mr. Jernstedt was also in charge of site security and public safety.

HYDROELECTRIC PROJECT DECOMMISSIONING - AMERICAN FORK

PACIFICORP — **American Fork, UT**

Safety Director, Full Time, On-site

Total Project hours: 2,151.50, Incident-free

Safety scope included: Steep hillside work and rock fall hazards when removing the flume and high voltage line hazard during airlift of flume. Additional public relations duties included working closely with the Utah Forest Service and Parks Service, keeping public NOTICES at ALL check stations, in effort to uphold the public image of the project and work activities.

Expertise

Tunnel Engineering, Cost and Constructability

Education

Bachelor of Science / 1971 / Civil Engineering, Virginia Polytechnic Institute and State University

Years With Firm: 22 **Total Years Experience:** 40

Summary

Mr. "Rich" Linamen provides one of the broadest bases of tunnel construction experience available in the U.S. consulting field. For more than 40 years, Mr. Linamen has been involved in all phases of tunnel and heavy construction in positions ranging from Shift Engineer on one of the most difficult tunnel projects built in recent years, through Project Manager on a major metropolitan subway section, up to the position of Vice President and Chief Engineer of one of the most respected and foremost tunnel construction firms in the world. Mr. Linamen has participated in the design and specification preparation for major tunneling throughout the United States, reviewed specifications and prepared detailed cost estimates for major underground construction projects ranging from near surface sewer tunnels to deep underground structures at depths greater than 3,000 feet. For the past twenty years, he has applied his hands-on knowledge of tunneling practices to both civilian and military efforts, including constructability, feasibility and vulnerability/survivability analyses, targeting, and the design and construction of underground structures.

Since joining Lachel & Associates, Inc., (Lachel), Mr. Linamen has prepared constructability analyses, detailed cost estimates and participated in the design of major tunneling, and heavy and earthwork construction projects throughout the United States. He has evaluated the constructability and construction costs of one-of-a-kind projects such as the Bonneville Navigation Lock Tunnel in Oregon; the Superconducting Super Collider in Texas; DART Subway Transition Tunnels, Dallas, Texas; a proposed 11-mile Railroad Tunnel, Oregon; a proposed gas pipeline tunnel through Keystone Canyon, Valdez, Alaska; and a proposed major underground highway link through downtown Dallas, Texas. Mr. Linamen also provides underground construction expertise to the DOD by conducting strength and vulnerability assessments of hardened facilities to evaluate the effects of dynamic loading on underground structures. Mr. Linamen has performed hardness and vulnerability analyses of both US and foreign facilities.

Prior to joining Lachel, Mr. Linamen had total responsibility for directing and supervising the construction activities of a major U.S. tunneling contractor from bid and proposal preparation through completion and close-out of the projects. These responsibilities included preconstruction planning and engineering, selection and management of site personnel, quality control management, cost control and schedule monitoring and management, contract negotiations including value engineering change proposals, owner-initiated change orders and contract modification and various claims and contractor-initiated change proposals and contract close-out and acceptance of the project by the owner. His project experience encompasses a full range of underground excavation methods in both rock and soft ground, varying from conventional drill-and-shoot to full-face TBM hard rock tunnels and from hand mining with liner plates to fully mechanized shield driven tunnels utilizing pre-cast concrete liners in both free and compressed air in soft ground.



Specialized Experience

Blasting & Vibration Monitoring - Mr. Linamen has over 38 years of experience in the design and supervision of blasting operations for both tunnels and shafts in varying geologic formations. As a tunnel contactor, Mr. Linamen was responsible for the full scope of blasting operations from initial blast round design through supervision of field crews during drill and blast operations. As part of the blast design, he has performed preconstruction assessments of surrounding structures to determine the maximum allowable peak particle velocity (PPV) for blasting operations to insure no damage to adjacent structures. Mr. Linamen has designed and supervised blast vibration monitoring programs to control blasting operations by providing real time feedback of actual PPVs from the blasting operations with pre-established action levels for critical structures. These programs have been successfully implemented in urban environments on such projects as the WMATA K-1 Project (Arlington, Va), Mondawmin Line Tunnels (Baltimore, MD) and the Southwest Interceptor No. 1 Project (Cleveland, OH). They have also been successfully implemented on sensitive government projects such as the Power Reliability Enhancement Project Phase II at Site R in southern Pennsylvania and four classified DOD projects in the past six years which involved both sensitive and historic structures .

Affiliations

American Society of Civil Engineers – former member of Tunneling and Underground Construction Committee

Publications

"Addison Airport Tunnel Project," 15th Canadian Tunneling Conference Proceedings, 1998

"Drill & Blast Tunnel Construction," Lecturer, Colorado School of Mines - Underground Structures '93 Short Course, 1993

"Drill & Blast Methods," Lecturer, Colorado School of Mines - Tunnel '91 Short Course, 1991

"Southwest Interceptor Contract No. 1, A Case History," Rapid Excavation and Tunneling Conference Proceedings, 1987

**APPENDIX D. MATERIALS TESTING DOCUMENTS AND TESTING
FREQUENCY**

Condit Hydroelectric Project Materials and Testing Standards

Material	Standard	Test Method and/or Standard
Concrete	Slump	ASTM C143
	Air Content.	ASTM C231
	Compression	ASTM C31, C39, C192
	Building code Requirements for structural concrete and commentary	ACI 318/318R
	Chemical Admixtures for concrete for buildings	ACI 212.3R
	Specifications for structural Concrete For Buildings	ACI 301
	Guide to Curing Concrete	ACI 308
	Guide for Measuring, Mixing, Transporting and placing Concrete	ACI 304R
	Standard Specification for Concrete Aggregates	ASTM C33
	Standard Specification for Ready-Mixed Concrete	ASTM C94
	Standard Specification for Portland Cement	ASTM C150
	Standard Specification for Air-Entraining Admixtures for Concrete	ASTM C260
	Standard Specification for Chemical Admixtures for Concrete	ASTM C494
	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete	ASTM C618
Demolition	American National Standards Institute Safety Requirements for Demolition Operations	ANSI A10.6
Earthwork	Gradation	ASTM C136
	Moisture/Density Relationship	ASTM A698
	Inplace Density	ASTM A2922
Steel	Field Welded Connections	AWS A1.1
Blasting	Construction Safety Act	OSHA, 1970
	Blasting and Use of Explosives	OSHA, 29CFR
	Implementation of the Safe Explosives Act	ATF, 27CFR, Part 555
	Safety Standards for the Possession and Handling of Explosives	WAC, 296-52

APPENDIX E. NONCONFORMANCE REPORT

NONCONFORMANCE REPORT (NCR)

Condit Hydroelectric Project Decommissioning

FERC No. 2342

To: _____
(Name of Contractor)

NCR Report No. _____

From: _____

Date Initiated: _____

RE: _____

Date Closed: _____

Please be advised that the following work and/or material are not in compliance with Technical Specification _____ and/or drawing(s) Sheet No. _____.

Design Change Required: ☐ Yes ☐ No ☐ Unknown

DESCRIPTION OF NONCONFORMANCE:

REQUIRED CORRECTIVE ACTION:

DISPOSITION: ☐ Use as is ☐ Rework ☐ Repair ☐ Reject

REQUIRED COMPLETION DATE: _____

CORRECTIVE ACTION(S)

Contractor comments:

Construction Manager comments:

Verification of Corrective Action: _____ (Contractor) Date: _____

Verification of Corrective Action: _____ (Construction Manager) Date: _____

Attachments: ☐ Yes (# of Pages ____) ☐ No